DOCUMENT RESUME

ED 033 832 24 RE 002 297

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TITLE	A Model for Non-Gradedness: The Reading Program for Individually Prescribed Instruction.
INSTITUTION	Pittsburgh Univ., Pa. Learning Research and Development Center.
Spons Agency	Office of Education (DHEW), Washington, D.C. Bureau of Research.
Bureau No	BR-5-0253-44
Pub Date	69
Contract	OEC-4-10-158
Note	8p.
Journal Cit	Elementary English; v46 p130-135 Feb 1969
EDRS Price	EDRS Price MF-$0.25 HC-$0.50
Descriptors	Behavioral Objectives, *Computer Assisted Instruction, *Curriculum Development, Demonstration Programs, Developmental Reading, Elementary School Curriculum, Individualized Curriculum, Individualized Reading, Linguistics, *Programed Instruction, Programed Units, Programing, *Sequential Reading Programs

Abstract

A model curriculum for individually prescribed reading instruction based on a linguistic approach to reading was developed. Four overlapping stages of reading were defined: prereading, decoding, comprehension and skills development, and independent reading. Within these four stages, 13 areas of study on 11 levels of difficulty were delineated, and approximately 400 behavioral objectives were written and arranged by study area and sequenced by difficulty. The intersection of each area of study with a difficulty level was called a unit. Learner competence in each of these areas was determined by performance on four types of diagnostic instruments developed for the program: a placement test, a unit pretest, a curriculum-embedded test, and a unit post-test. Daily individual pupil prescriptions based on pupil achievement and needs were written by the teacher. The prescription directed the child to staff-prepared worksheets, disc recordings and response sheets, adapted Sullivan Associates Programmed Reading materials, or other materials. Although the emphasis was on self-instruction, group instruction for particular purposes was done on a flexible basis. A computer-assisted management system for data collection and processing designed to aid the teacher in making daily individual pupil prescriptions was developed as a part of the project. (CM)

BR-5-0253
Reprint #44
PA-24
OE-BR.

UNIVERSITY OF PITTSBURGH - LEARNING R & D CENTER

REPRINT 44

A MODEL FOR NON-GRADEDNESS: THE READING PROGRAM FOR INDIVIDUALLY PRESCRIBED INSTRUCTION

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RE 002 297

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Reprinted from Elementary English, 1969, 46, 130-135.

Reprinted by the Learning Research and Development Center supported in part as a research and development center by funds from the United States Office of Education, Department of Health, Education, and Welfare. The opinions expressed in this publication do not necessarily reflect the position or policy of the Office of Education and no official endorsement by the Office of Education should be inferred.

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SYMPOSIUM
PART III

A MODEL FOR NON-GRADEDNESS: THE READING PROGRAM FOR INDIVIDUALLY PRESCRIBED INSTRUCTION

During the past four years the Learning Research and Development Center at the University of Pittsburgh in cooperation with the Baldwin-Whitehall School District has been involved in designing, developing, and implementing curricula for a program to individualize instruction in reading, mathematics, and science. Approximately 250 children in kindergarten through sixth grade along with the teaching staff at the Oakleaf Elementary School are involved in the program called Individually Prescribed Instruction (IPI).

The IPI Project represents an investigation into the problems encountered in individualizing instruction and involves the development of a program for achieving this goal. The definition of individualization that serves as a basis for the project is that individualization of instruction implies the provision for planning and implementing an individualized program of studies suited to each student's learning needs and his characteristics as a learner. The essential aspects of individualization that are of major concern to the project staff at the present stage of development are: 1) individualization of rate at which students proceed through a carefully sequenced set of objectives for a given subject; 2) mastery of subject-matter content by individuals as they proceed through a set of objectives; 3) self-direction, self-evaluation, and self-initiation on the part of the learners; and 4) devising individualized techniques and materials of instruction. All these aspects are predicated upon the fact that individualized instruction entails determining what the child knows in a given area at a particular time and what he is ready to learn.

The IPI model for individualization consists of the following components: 1) sequentially established curricular objectives in each area stated in behavioral terms, 2) procedures and processes for diagnosis of student achievement in terms of the objectives of the curriculum, 3) materials for individualizing learning to provide a variety of paths for attainment of mastery of any given objective, 4) a system for individually prescribing the learning tasks that the student is ready to undertake, 5) the organization and management of individualization as it relates to the total school environment, and 6) strategies for continuous evaluation and feedback of information for teacher decision-making.

Curriculum

The IPI reading curriculum is based on

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an analysis of recent thinking in the field. After reviewing the alternatives available, a linguistic approach to reading was selected. This approach suggests four stages of reading: 1) pre-reading, 2) decoding, 3) comprehension and skills development, and 4) independent reading.

Stages

The pre-reading stage emphasizes the behaviors needed to begin the decoding process. Included in this stage are teaching the letter names and some letter sounds, identifying groups of letters as words, and auditory blending. During the pre-reading stage, the child is guided through the IPI system and taught to manage the materials that assist him in learning to read.

The *Sullivan Associates Programmed Reading* published by McGraw-Hill Book Company is the major instructional material used during the decoding stage. It was selected because it is based, in general, on a linguistic approach and because it permits the child to proceed at his own rate. During this decoding stage comprehension skills receive attention through small group teacher-directed situations.

Comprehension and skills development emphasize "reading for meaning." The pupil objectives in the third stage assume decoding, and develop the comprehension skills with stress on literal, interpretative, and evaluative comprehension.

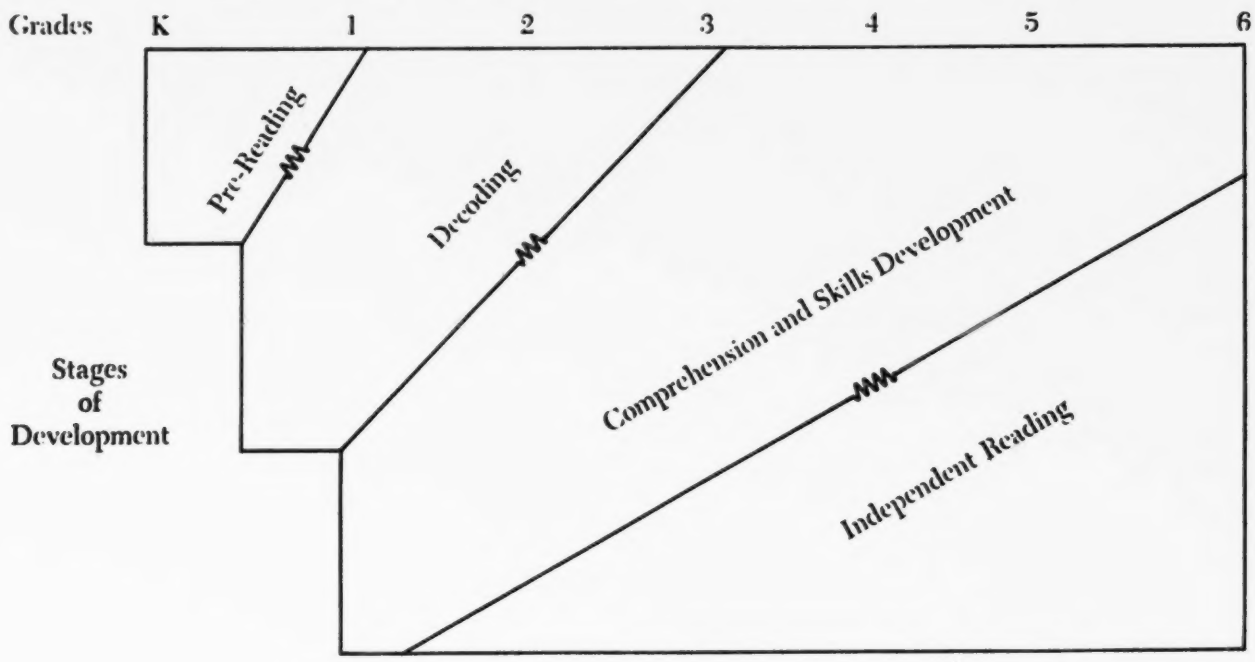
The last stage, independent reading, assumes that the pupil uses the decoding and comprehension skills to read in areas of his interests and needs. Although it is possible to think of these stages as analytically discreet, they are not; they overlap. Some independent reading occurs at the decoding stage, comprehension skills are practiced at the decoding stage, and comprehension skills continue to be developed in the independent stage. The label for each stage only states the primary emphasis of that stage. Table I is a graphic representation of these stages of development.

Objectives

The key aspect of the curricula for the

Table I

Graphic Representation of the Stages for the IPI Reading Program



Individually Prescribed Instruction Project is the careful specification of behavioral objectives. The IPI reading curriculum contains approximately 400 behavioral objectives arranged by area of study (e.g., literal comprehension, vocabulary development) and sequenced by difficulty. There are 13 areas of study on 11 levels of difficulty. The intersection of an area of study with a level of difficulty is called a unit. Table II represents a scope and sequence chart indicating the areas of study and the number of objectives for each unit.

Some objectives appear at several levels of difficulty. However, the selection to which the objective applies varies. An example of this is the objective that asks a student to state in his own words the main idea of a selection. This particular objective appears on six levels of difficulty. However, each time it appears the text to which the objective is applied is longer, the readability is more difficult, and the content (e.g., fiction, non-fiction, science) varies. In this sense, the conditions for which the objective applies are considered in sequencing the curriculum. Thus, the pupil is refining his use of the skill as he proceeds through the levels.

Table II

Number of Objectives in Each Unit in Individually Prescribed Instruction Reading

Area of Study	*Level*										
	A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*
Visual Discrimination	12	–	–	–	–	–	–	–	–	–	–
Auditory Discrimination	2	2	–	–	–	–	–	–	–	–	–
Phonetic Analysis	–	–	3	6	4	5	6	–	–	–	–
Structural Analysis	–	–	4	7	11	12	6	3	3	3	5
Vocabulary Development	–	4	4	4	3	3	5	2	4	2	2
Literal Comprehension	5	4	4	3	3	4	4	5	3	2	2
Interpretative Comprehension	5	8	5	5	3	4	5	6	6	5	8
Evaluative Comprehension	2	3	4	2	5	4	4	5	4	2	5
Organizational Skills	–	–	–	–	–	7	5	3	6	5	6
Library Skills	3	2	3	2	2	4	6	5	5	2	–
Reference Skills	–	4	1	3	4	7	6	5	4	4	2
Oral Reading	–	2	1	1	–	–	–	–	–	–	–
Related Reading	6	4	2	–	–	–	–	–	–	–	–

Diagnostic Instruments

A vital ingredient of an individualized program is the diagnostic instruments for determining to which levels, units, and objectives a pupil should be assigned. Four types of diagnostic instruments have been developed for the reading program. These include the placement test, the unit pre-test, the curriculum-embedded test, and the unit post-test.

The placement test is given at the beginning of each academic year and to children upon transferring into the school. A pupil's performance on the placement test assists the teacher in determining the initial starting unit for that student. Once this starting unit has been determined, the student is assigned the pretest for that particular unit. This instrument measures the child's proficiency in each objective within the unit. When a pupil demonstrates the desired proficiency for any of the objectives within a unit, he is not assigned work for that objective. For any objective in which the pupil does not demonstrate mastery, he is assigned a sequence of work.

The curriculum-embedded test is a check to assist the teacher and student in determining when the pupil should move on to the next objective within a unit. If a child fails to show mastery on the curriculum-embedded test, additional work is assigned. After the additional assignment is completed, another curriculum-embedded test is administered. When the pupil completes the assigned work within a unit, and when his performance on the curriculum-embedded tests indicates competence, he is given a post-test for the unit. The post-test is a parallel form of the pretest.

Materials

Materials for individually prescribed instruction have been selected and developed to teach each of the objectives. As much as possible, these materials provide for some degree of self-study. They lead the child from what he knows to what he needs to know to progress through the curriculum. Where possible, existing materials that meet these criteria were identified and when necessary, modified. Where the demands of the objectives were such that commercial materials were not readily available or easily modified, the Learning Research and Development Center's staff and the IPI teachers have written the necessary materials. An example of the adaptation of commercial materials is the present use of *Sullivan Associates Programmed Reading*. In attempting to implement the first 14 or 15 books of this series in an individualized program, it was necessary to develop approximately 500 short recordings to introduce sounds, new words, dictation exercises, and other instructional and auditory requirements of the program. As a result of adapting this program, it was possible to reduce by approximately 50 percent the amount of work assigned in each of the 14 books.

Another example of the adaptation of available materials are staff prepared worksheets that have pupils go to a particular commercial source and read a specified selection. After reading the selection, the child returns to the worksheet and answers staff prepared questions or performs a variety of staff prepared activities. In other words, commercial reading selections are used, but the instructional strategies are determined by the staff.

Presently throughout the program there is considerable reliance on worksheets; tape and disc recordings; programmed materials; individual readers; selected materials from reading kits such as SRA, Macmillan Reading Spectrum; as well as manipulative devices such as the language master. The program contains approximately 4,000 staff prepared workpages and 600 staff prepared disc recordings and response sheets.

Although there is an emphasis on self-instruction, this is not the only instructional technique employed. In some instances, it is necessary and desirable for the teachers to present new ideas and processes; this is done in small and/or large groups as well as individually. The major difference of group instruction as employed in an individualized program is that the groups assemble for a particular purpose and usually remain intact for only short periods of time.

Individual Prescriptions

The keystone of the IPI system is the individual pupil's prescription or daily lesson plan. On the basis of the teacher's diagnosis of the student's abilities and placement test results, the lesson plan for each child lists the materials to be used and the instructional techniques to be employed for a particular objective. In writing the prescription, the teacher takes into account such factors as: 1) the achievement of the student as it relates to the

curriculum, 2) the general maturity of the child, 3) certain learner characteristics as they relate to the particular tasks, and 4) the student's present degree of self-direction and self-initiation. Prescriptions are prepared prior to the scheduled time for reading instruction and are organized for ease of distribution as the class begins.

Classroom Management

The students in the primary classes begin work independently on prescribed materials. In the case of a first grader working primarily in the decoding portion of the program, the child often begins by listening to one or two records prepared to go with a series of student response sheets. These records introduce new sound symbols, review previously taught sound symbols, and introduce new words. After completing this auditory introduction, he will then work in his reading book which, at the present time, is a modified version of *Sullivan Associates Programmed Reading*. His prescription tells him how far to proceed in this book before checking with his teacher. Most of the students can proceed through the prescribed materials with a minimum of teacher direction and instruction. However, when assistance is needed the student can obtain help from either the teacher aides or the teacher, depending on the nature of the assistance needed. When the child has completed this portion of his assignment, the teacher generally brings together five to 10 students and conducts a group reading lesson. The emphasis during the individual aspect of the program is on the decoding processes, while the emphasis during the group lesson is on oral reading and comprehension.

The reading program for students in the intermediate grades is also divided into two major areas—basic skills development and reading skill utilization. An example of the management of the basic skills portion follows: A student ready to begin work at Level E—Literal Comprehension, is assigned a pretest covering the three objectives for this unit. These objectives are:[1]

1. List in written form the events of a given story or article in the order of occurrence.
2. Answer, in written form, true-false statements that require recall of direct statements in a printed text.
3. Copy the sentence from a story which provides proof for the answer to a given question.

If results of the pretest indicate that a child needs work assigned for Objective 1, his prescription would list the tasks that are appropriate for him for this objective. These would be listed as: E-LC-1, pages 2, 3, 4. The student would then go to the materials center and pull the sheets corresponding to these assignments. His first assignment as listed on assignment sheet 2 would be: "Go to the SRA Reading Laboratory 1C in the Learning Center. Find the story, 'Smart Little Rooster,' Olive 15 and read it." After completing this assignment the student checks his answers against an answer key. If he has questions concerning interpretations or errors that he made, he sees the teacher. If he has no questions, he proceeds to the next assignment. The next assignment might be a selection from a Basal reader. It often happens that the teacher gives the child a more open assignment within an objective permitting him to read any three or four selections from the material available for the objective.

As the student follows his daily prescription and works through his assign-

[1]Individually Prescribed Instruction Reading Curriculum. Working Paper No. 28. Pittsburgh, Pennsylvania: Learning Research and Development Center, University of Pittsburgh, September 1, 1967.

ments, the teacher moves throughout the class checking student progress and giving assistance as needed. The information gained from this interaction plus the information obtained from the child's successes and difficulties with the assigned materials are the bases for the next days prescription. About one-half of the child's reading time is spent on the activities just described. These activities comprise the skills development area.

The other half of the intermediate reading program involves skill utilization activities. Here the student is involved in applying and integrating previously learned skills to tradebooks, textbooks, magazines, and newspapers. Depending upon the child's placement in the skills development area he is assigned to a small group. In this group he is introduced to a variety of reading sources, shares interpretation of mutually read selection with others, is introduced to some of the classics, and is provided with opportunities for purposeful oral reading. Also, during part of this time, he is given the freedom to select what he wants to read. As the child progresses the amount of time spent in directed activities decreases, while the time spent in independent reading increases. The main difference between the extremes of directed reading and independent reading is the amount of control of the child's reading activities by the teacher.

Data Collection

An essential aspect of individualized instruction is the provision for charting the progress of each student as he moves through the curriculum and the availability of these reports for teacher use. This information is necessary for individual prescriptions and classroom organization. The data to be used for prescription writing should include: 1) general ability level in the given subject, 2) the degree of mastery or lack of mastery in each skill in the particular unit assigned to the student, 3) information related to the child's progress in previous units directly related to the skills in the present unit, 4) detailed information related to the pupil's progress as he moves through the various tasks related to the particular skill or objective assigned, and 5) general learning characteristics of the pupil as they relate to the assigned task.

Information needed by the teacher for day-to-day classroom organization must include: 1) level, unit, and skill of each pupil in the class; 2) the approximate length of time (days) the student has been working in a given skill; and 3) the next immediate skill for each pupil in the class. With this information the teachers can organize the classes for small and large group discussion, peer-group discussions, or individualized tutoring. The availability, accuracy, and format of these reports is essential to the success of IPI as an operating system.

A program for computer-assisted management for the project has been developed and will become operational in September, 1968. With the implementation of this management system, teachers will be able to obtain more quickly relevant information on a particular student, reports as to how many and which students are working in the same units or objectives, and daily summaries of the progress of each student. Additional functions of this system will be added as the teachers and staff are able to suggest further needs.